



Mol. Cell. Biol. 7, 237-243, 1987

A:Title: The yes-related cellular gene lyn encodes a possible tyrosine kinase similar to

A:Reference number: A26719; PMID:87172710; PMID:1561390

A:Accession: A26719

A:Molecule type: mRNA

A:Residues: 1-512 <YAM>

A:Cross-references: GB:M16038; NID:G187268; PIDN:AAA59540.1; PID:G307144

A:Partners: J.; Maekela, T.P.; Allitalo, R.; Lehtvaelaho, H.; Allitalo, K.

A:Title: Putative tyrosine kinases expressed in K-562 human leukemia cells.

A:Reference number: A38268; PMID:91062389; PMID:2247464

A:Accession: D38268

A:Status: not compared with conceptual translation

A:Molecule type: mRNA

A:Residues: 369-424 <PAR>

A:Cross-references: GB:M16038; NID:G187268; PIDN:AAA59540.1; PID:G307144

A:Partners: J.; Maekela, T.P.; Allitalo, R.; Lehtvaelaho, H.; Allitalo, K.

A:Title: Expression of the B cell-associated tyrosine kinase gene lyn in primary neurobl

A:Reference number: PH0949; PMID:92378604; PMID:1510669

A:Accession: PH0949

A:Molecule type: mRNA

A:Residues: 369-424 <81E>

A:Experimental source: neuroblastoma SK-IN cell

A:Rider, L.G.; Raben, N.; Miller, L.; Jelsema, C.

Gene 138, 219-222, 1994

A:Title: The cdnas encoding two forms of the lyn protein tyrosine kinase are expressed

A:Reference number: 153715; PMID:94171041; PMID:8125304

A:Accession: 153715

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-24, 46-512 <RID>

A:Cross-references: GB:M79321; NID:G187270; PIDN:AAA50019.1; PID:G187271

A:Experimental source: splice form B

A:Gene: GDB:LYN

A:Cross-references: GDB:120159; OMIM:165120

A:Map position: 8q13-qter

C:Function:

A:Description: catalyzes the phosphorylation of a peptidyl tyrosine residue by ATP

C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 h

C:Keywords: alternative splicing; ATP; autophosphorylation; blocked amino end; lipoprote

tyrosine-specific protein kinase

F:2-512/Product: protein-tyrosine kinase lyn, splice form A #status predicted <MATA>

F:2-24, 46-512/Product: protein-tyrosine kinase lyn, splice form B #status predicted <MAT

F:70-118/Domain: SH2 homology <SH2>

F:129-226/Domain: SH2 homology <SH2>

F:245-504/Domain: protein kinase homology <KIN>

F:253-261/Region: protein kinase ATP-binding motif

F:12/Modified site: myristylated amino end (Gly) (in mature form) #status predicted

F:13/Binding site: palmitate (Cys) (covalent) #status predicted

F:275/Active site: lys #status predicted

F:397,508/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status pred

Query Match 27.8%; Score 374.5; DB 1; Length 512;  
Best Local Similarity 40.3%; Pred. No. 3, 8e-23;  
Matches 81; Conservative 36; Mismatches 75; Indels 9; Gaps 3;

QY 5 SRRKSLPSPSSSVGGQPVYMEASRATVVALGSPAGGPAELSLRLGEPITVSED 64  
DB 38 SNKQRPVPE-SQLPGQRFQKDPBEGDIALVPIYDGHDDLSFKKGKMKVLEEH 96  
QY 65 GDMWTVLSEVSGREYNIPSYHAKV-----SHGWLVEGLSREKAEELLPLPGNGAFILR 120  
DB 97 GEMWAKSLSKSGKEGFIPSNYAKVNTLETETEMFFKDIRKDAERQLAAGSAGAFILR 156  
QY 121 ESQTRGSGYSVLSRSPASMDRIHRYHCLDNGWLYISPLTPPSLOALVDHYSELAD 180  
DB 157 ESETLKGSFSLSVDFDPMHGDVYKHYKIRSLDNGYIISPTTFCISDMIKHYQKQAD 216  
QY 181 DICCLKEPCVLOKAGPLPK 201  
DB 217 GLCRLEKACT-----SPKPK 223

RESULT 3

156160 protein-tyrosine kinase (EC 2.7.1.112) lyn, splice form A - rat

N:Contains: protein-tyrosine kinase lyn, splice form B

C:Species: Rattus norvegicus (Norway rat)

C:Date: 18-Feb-2000 #sequence revision 18-Feb-2000 #text\_change 18-Feb-2000

C:Accession: 156160; 167811; 167812

A:Title: Bacterially expressed rat p56lyn binds several proteins in rat basophilic leuka

A:Reference number: 156160

A:Accession: 156160

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-512 <MIN>

A:Cross-references: GB:L14951; NID:G294582; PIDN:AAA41549.1; PID:G294583

A:Rider, L.G.; Raben, N.; Miller, L.; Jelsema, C.

Gene 138, 219-222, 1994

A:Title: The cdnas encoding two forms of the lyn protein tyrosine kinase are expressed

A:Reference number: 153715; PMID:94171041; PMID:8125304

A:Accession: 167812

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-24, 46-230, 'V', 232-307, 'A', 309-418, 'Y', 420-512 <RID2>

A:Cross-references: GB:L14823; NID:G294580; PIDN:AAA20945.1; PID:G294581

A:Note: in Genbank entry RATTYMYR, release 116.0, PIDN:AAA20945.1, the source is desig

C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 h

C:Keywords: alternative splicing; ATP; autophosphorylation; blocked amino end; lipoprote

F:2-512/Product: protein-tyrosine kinase lyn, splice form A #status predicted <MATA>

F:2-24, 46-512/Product: protein-tyrosine kinase lyn, splice form B #status predicted <MAT

F:70-118/Domain: SH2 homology <SH2>

F:129-226/Domain: SH2 homology <SH2>

F:245-504/Domain: protein kinase homology <KIN>

F:253-261/Region: protein kinase ATP-binding motif

F:12/Modified site: myristylated amino end (Gly) (in mature form) #status predicted

F:13/Binding site: lys #status predicted

F:397,508/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status pre

Query Match 27.6%; Score 371.5; DB 1; Length 512;  
Best Local Similarity 40.8%; Pred. No. 6, 8e-23;  
Matches 82; Conservative 33; Mismatches 77; Indels 9; Gaps 3;

QY 5 SRRKSLPSPSSSVGGQPVYMEASRATVVALGSPAGGPAELSLRLGEPITVSED 64  
DB 38 SNKQRPVPE-SQLPGQRFQKDPBEGDIALVPIYDGHDDLSFKKGKMKVLEEH 96  
QY 65 GDMWTVLSEVSGREYNIPSYHAKV-----SHGWLVEGLSREKAEELLPLPGNGAFILR 120  
DB 97 GEMWAKSLSKSGKEGFIPSNYAKVNTLETETEMFFKDIRKDAERQLAAGSAGAFILR 156  
QY 121 ESQTRGSGYSVLSRSPASMDRIHRYHCLDNGWLYISPLTPPSLOALVDHYSELAD 180  
DB 157 ESETLKGSFSLSVDFDPMHGDVYKHYKIRSLDNGYIISPTTFCISDMIKHYQKQAD 216  
QY 181 DICCLKEPCVLOKAGPLPK 201  
DB 217 GLCRLEKACT-----SPKPK 223

RESULT 4  
A39719 protein-tyrosine kinase (EC 2.7.1.112) lyn, long splice form - mouse  
N:Contains: protein-tyrosine kinase lyn, short splice form  
C:Species: Mus musculus (house mouse)  
C:Date: 18-Feb-2000 #sequence revision 18-Feb-2000 #text\_change 03-Mar-2000  
C:Accession: A39719; B39719; A39750; B39750

R:Stanley, E.; Ralph, S.; McEwen, S.; Boulet, I.; Holzman, D.A.; Lock, P.; Dunn, A.R.  
 Mol. Cell. Biol. 11, 3399-3406, 1991  
 A>Title: Alternatively spliced murine lyn mRNAs encode distinct proteins.  
 A:Reference number: A39719; MUID:91260688; PMID:1710766  
 A:Accession: A39719  
 A:Molecule type: mRNA  
 A:Residues: 1-512 <STA2>  
 A:Cross-references: GB:M64608; NID:G198938; PIDN:AAA3470.1; PID:G198939  
 A:Accession: B39719  
 A:Molecule type: mRNA  
 A:Residues: 1-24, 46-512 <STA2>  
 A:Cross-references: GB:M64608  
 R:Yi, T.; Bolen, J.B.; Ihle, J.N.  
 Mol. Cell. Biol. 11, 2391-2398, 1991  
 A>Title: Hematopoietic cells express two forms of lyn kinase differing by 21 amino acids  
 A:Reference number: A39750; MUID:91203857; PMID:2017160  
 A:Accession: A39750  
 A:Molecule type: mRNA  
 A:Residues: 1-76, 'F', '78-160, 'I', '162-278, 'L', '280-390, 'I', '392-424, 'D', '426-512 <Y11>  
 A:Cross-references: GB:M57696; NID:G198940; PIDN:AAA39471.1; PID:G198941  
 A:Accession: B39750  
 A:Molecule type: mRNA  
 A:Residues: 1-24, 46-76, 'F', '78-160, 'I', '162-278, 'L', '280-390, 'I', '392-424, 'D', '426-512 <Y12>  
 A:Cross-references: GB:M57697; NID:G198942; PIDN:AAA39472.1; PID:G198943  
 C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 h  
 C:Keywords: alternative splicing; ATP; autophosphorylation; blocked amino end; lipoprote  
 F1-512/Product: protein-tyrosine kinase lyn, long splice form #status predicted <MATL>  
 F1-24, 46-512/Product: protein-tyrosine kinase lyn, short splice form #status predicted  
 F170-118/Domain: SH3 homology <SH3>  
 F129-226/Domain: SH2 homology <SH2>  
 F124-504/Domain: protein kinase homology <KIN>  
 F1253-261/Region: protein kinase ATP-binding motif  
 F12/Modified site: myristylated amino end (Gly) (in mature form) #status predicted  
 F1275/Active site: lys #status predicted  
 F1397,508/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status pred

Query Match 27.6%; Score 371.5; DB 1; Length 512;  
 Best Local Similarity 40.8%; Pred. No. 6,86-23;  
 Matches 82; Conservative 33; Mismatches 77; Indels 9; Gaps 3;

Qy 5 SRRKSLPSPSSVQGGPVTMEARSKATVVALGSPFAGAEISLRLGEPPLTVSEGD 64  
 Db 38 SNKQGRVPEF-HLPQGRFQTKDPEQGDIVLYALYDEAIHHEDLSFKQDQVNVLESGEMWKA 96  
 Qy 65 GDWWTULSEVSGREYNIPSVHAKV---SHQWLYEGLSREKAEELLPLPGNPGAFILIR 120  
 Db 97 GEWKKAKSLSSKREGEFIPSNVAVKNTLETETEFKQDITRKDAERQLLAPGNAGAFILIR 156  
 Qy 121 ESQTRGSSVLSVRLSPASWDIRIRHRYRHCNDGMWLYISPRITFPSLQALVDHYSELAD 180  
 Db 157 ESSTLKGSFSLSVRYDPMHGDVYKHKIRSLDNGGYTISRITFPCISDMTKHYQKQSD 216  
 Qy 181 DICCLKEPCVQLQRAGPLPK 201  
 Db 217 GLCRRLKAKI-----SPKPK 233

RESULT 5  
 TVHHC  
 protein-tyrosine kinase (EC 2.7.1.112) hck - human  
 C:Species: Homo sapiens (man)  
 C:Date: 31-Dec-1989 #sequence\_revision 10-Nov-1995 #text\_change 11-Jun-1999  
 C:Accession: A27811; A27812; J0149; C38268; S31103  
 R:Quintrell, N.; Lebo, R.; Varnum, H.; Bishop, J.M.; Pectinati, M.J.; Le Beau, M.M.; Dig  
 Mol. Cell. Biol. 7, 2267-2275, 1987  
 A>Title: Identification of a human gene (HCK) that encodes a protein-tyrosine kinase and  
 A:Reference number: A27811; MUID:87257942; PMID:3496523  
 A:Accession: A27811  
 A:Molecule type: mRNA  
 A:Residues: 1-505 <QUT>  
 A:Cross-references: GB:M16591  
 A>Note: the codon given for 3-Cys (TCG) is inconsistent with the authors' translation  
 R:Ziegler, S.F.; Marth, J.D.; Lewis, D.B.; Perlmutter, R.M.

Mol. Cell. Biol. 7, 2276-2285, 1987  
 A>Title: Novel protein-tyrosine kinase gene (hck) preferentially expressed in cells of f  
 A:Reference number: A27812; MUID:87257943; PMID:3453117  
 A:Accession: A27812  
 A:Molecule type: mRNA  
 A:Residues: 1-505 <ZTB>  
 A:Cross-references: GB:M16592; NID:G183913; PIDN:AAA2644.1; PID:G306833  
 R:Radetzky, D.; Schreihardt, K.; Ruedsamen-Waisman, H.  
 Gene 113, 275-280, 1992  
 A>Title: The genomic locus of the human hemopoietic-specific cell protein tyrosine kinase  
 A:Reference number: J01149; MUID:92241680; PMID:1572549  
 A:Accession: J01149  
 A:Molecule type: DNA  
 A:Residues: 157-505 <HRA>  
 A:Cross-references: EMBL:X5741  
 R:Barthelen, U.; Maekela, T.P.; Altalo, R.; Lehtvaesalho, H.; Altalo, K.  
 Proc. Natl. Acad. Sci. U.S.A. 87, 8913-8917, 1990  
 A>Title: Putative tyrosine kinases expressed in K-562 human leukemia cells.  
 A:Reference number: A38268; MUID:91062389; PMID:2247464  
 A:Accession: C38268  
 A:Status: nucleic acid sequence not shown; not compared with conceptual translation  
 A:Molecule type: mRNA  
 A:Residues: 362-417 <PAR>  
 C:Genetics:  
 A:Gene: GDB:HCK  
 A:Cross-references: GDB:119303; OMIM:142370  
 A:Map position: 20q11-20q12  
 A:introns: 207/1; 258/1; 318/1; 343/3; 395/1; 439/1  
 C:Function:  
 A:Description: catalyzes the phosphorylation of a peptidyl tyrosine residue by ATP  
 C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH3 h  
 C:Keywords: ATP; autophosphorylation; blocked amino end; lipoprotein; myristylation; phos  
 F1-505/Product: protein-tyrosine kinase hck #status predicted <MAT>  
 F164-112/Domain: SH3 homology <SH3>  
 F123-220/Domain: SH2 homology <SH2>  
 F1239-497/Domain: protein kinase homology <KIN>  
 F1247-255/Region: protein kinase ATP-binding motif  
 F12/Modified site: myristylated amino end (Gly) (in mature form) #status predicted  
 F13/Binding site: palmitate (Cys) (covalent) #status predicted  
 F1269/Active site: lys #status predicted  
 F1390/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status predicted

Query Match 27.1%; Score 364.5; DB 1; Length 505;  
 Best Local Similarity 42.2%; Pred. No. 2,5e-22;  
 Matches 78; Conservative 31; Mismatches 69; Indels 7; Gaps 2;

Qy 11 PPSLSVQGGPVTMEARSKATVVALGSPFAGAEISLRLGEPPLTVSEGDWWTY 70  
 Db 40 PGRSHNS---NTPREAGSEDIIVLYALYDEAIHHEDLSFKQDQVNVLESGEMWKA 96  
 Qy 71 LSEVSGREYNIPSVHAKV---SHQWLYEGLSREKAEELLPLPGNPGAFILIR 126  
 Db 97 RSLATRKKEGYIPSNVAVRVDLETETEFKQDITRKDAERQLLAPGNAGAFILIR 156  
 Qy 127 GSVLSVRLSPASWDIRIRHRYRHCNDGMWLYISPRITFPSLQALVDHYSELADICCL 186  
 Db 157 GSTLSVRYDPMHGDVYKHKIRSLDNGGYTISRITFPCISDMTKHYQKQSD 216  
 Qy 187 KEPCV 191  
 Db 217 SVPCM 221

RESULT 6  
 137206  
 protein-tyrosine kinase (EC 2.7.1.112) blk - human  
 C:Species: Homo sapiens (man)  
 C:Date: 06-Sep-1996 #sequence\_revision 06-Sep-1996 #text\_change 04-Mar-2000  
 C:Accession: I37206; S51647  
 R:Islam, K.B.; Rabhani, H.; Larsson, C.; Sanders, R.; Smith, C.I.  
 J. Immunol. 154, 1265-1272, 1995  
 A>Title: Molecular cloning, characterization, and chromosomal localization of a human ly  
 A:Reference number: I37206; MUID:95123078; PMID:7822795

A:Accession: J13706  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-505 <RES>  
A:Cross-references: EMBL:233998; NID:9601951; PIND:CAA83965.1; PID:9601952  
C:Genetics:  
A:Gene: GDB:BLK  
A:Cross-references: GDB:454114; OMIM:191305  
A:Map position: 8p23-8p22  
C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 h  
C:Keywords: ATP; blocked amino end; lipoprotein; myristylation; phosphotransferase; tyro  
F:65-113/Domain: SH2 homology <SH2>  
F:124-220/Domain: SH2 homology <SH2>  
F:239-497/Domain: protein kinase homology <KIN>  
F:247-255/Region: protein kinase ATP-binding motif  
F:2/Modified site: myristylated amino end (Gly) (in mature form) #status predicted  
F:269/Active site: Lys #status predicted

Query Match 26.5%; Score 356.5; DB 2; Length 505;  
Best Local Similarity 44.2%; Pred. No. 1.2e-21;  
Matches 76; Conservative 24; Mismatches 67; Indels 5; Gaps 2;  
Qy 24 PYTMEERSKATAVALGSPAGPAELSLRGEPLTVSEDDMTVLSEVSGREYNIPS 83  
Db 51 PRDEHDEKHFVVALYDYVAMNDRDLQMLKGEKLYLKGTDWMLARSLVTGEGEYPS 110  
Qy 84 VHYAKV---HGMLYEGLSREKAEELLPGNPGAPLIRSGOTRSGSYSLVSRDA 139  
Db 111 NFVAVESLEMERFPGSKAEEROLAPINAGSFLIRSEINRKAPSLVK-DYTT 169  
Qy 140 SMDRIHYRIHCLDNGMLYISPLTFPSLOALVDHYSELADICCLKEPCV 191  
Db 170 QGBLKHVYKIRCLDEGGYISPRITFPSLOALVQHSKKGDLCORLTLPV 221

## RESULT 7

TWNSHC  
protein-tyrosine kinase (EC 2.7.1.112) hck - mouse  
N:Alternate names: kinase-related transforming protein (bmk)  
C:Species: Mus musculus (house mouse)  
C:Date: 31-Dec-1989 #sequence revision 31-Dec-1989 #text\_change 28-Jan-2000  
C:Accession: A27282; A39973  
R:Klemas, M.J.; McKercher, S.R.; Maki, R.A.  
Nucleic Acids Res 15, 9600, 1987  
A:Title: Nucleotide sequence of the mouse hck gene.  
A:Reference number: A27282; MUID:88067781; PMID:3684607  
A:Accession: A27282  
A:Molecule type: mRNA  
A:Residues: 1-503 <RES>  
A:Cross-references: GB:Y00487; NID:951209; PIND:CAA68544.1; PID:951210  
R:Holzman, D.A.; Cook, W.D.; Dunn, A.R.  
Proc. Natl. Acad. Sci. U.S.A. 84, 8325-8329, 1987  
A:Title: Isolation and sequence of a cDNA corresponding to a src-related gene expressed  
A:Reference number: A39973; MUID:88068887; PMID:3317404  
A:Accession: A39973  
A:Status: preliminary; not compared with conceptual translation  
A:Molecule type: mRNA  
A:Residues: 1-503 <RES>  
A:Cross-references: GB:J03023; NID:9192212; PIND:AAA7305.1; PID:9309118  
C:Genetics:

A:Gene: hck  
C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 h  
C:Keywords: ATP; autophosphorylation; blocked amino end; lipoprotein; myristylation; pho  
F:62-110/Domain: SH2 homology <SH2>  
F:121-218/Domain: SH2 homology <SH2>  
F:237-495/Region: protein kinase ATP-binding motif  
F:2/Modified site: myristylated amino end (Gly) (in mature form) #status predicted  
F:267/Active site: Lys #status predicted  
F:388/499/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status pred

Best Local Similarity 41.5%; Pred. No. 1.3e-21;  
Matches 83; Conservative 33; Mismatches 72; Indels 12; Gaps 4;  
Qy 10 LPSPSSSVQCGPVME---AERSKAT-AVALGSPAGPAELSLRGEPLTVSEDDG 65  
Db 30 VPDTSSSKLGGNNNSMPPEFVSGSEDTIVVALDYEAHIREDLSPFGQDQMVLEBAG 89  
Qy 66 DMTVLSEVSGREYNIPSHVAKV---SHGMLYEGLSREKAEELLPGNPGAPLIRE 121  
Db 90 EMMVARSLATKEGYIPSNVAVNSLFTTEWFFGJSRCQARHLLAPGNMWSFMIRD 149  
Qy 122 SOTRSGSYSLVSRPASMDRIHYRIHCLDNGMLYISPLTFPSLOALVDHYSELADD 181  
Db 150 SETTKGSYSLRPDDPQHGGTVKHYKIRLDSGCFYISPRFTSSLQBLVLYHKKMGD 209  
Qy 182 ICCLKEPCVLRQAPLPGK 201  
Db 210 LQOKLSVPCV---SPKPK 225

## RESULT 8

JQ1321  
protein-tyrosine kinase (EC 2.7.1.112) hck - rat  
C:Species: Rattus norvegicus (Norway rat)  
C:Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text\_change 04-Feb-2000  
C:Accession: JQ1321; S18974  
R:Okano, Y.; Sugimoto, Y.; Fukunaka, M.; Matsui, A.; Nagata, K.; Nozawa, Y.  
Biochem. Biophys. Res. Commun. 181, 1137-1144, 1991  
A:Title: Identification of rat cDNA encoding hck tyrosine kinase from megakaryocytes.  
A:Reference number: JQ1321; MUID:92109719; PMID:1764064  
A:Accession: JQ1321  
A:Molecule type: mRNA  
A:Residues: 1-503 <RES>  
A:Cross-references: GB:S74141; NID:9241436; PIND:AB20754.1; PID:9241437  
A:Experimental source: megakaryocyte  
R:Rema, V.; Swarup, G.  
Submitted to the EMBL Data Library, December 1991  
A:Reference number: S18974  
A:Accession: S18974  
A:Status: preliminary  
A:Molecule type: mRNA  
A:Residues: 1-50, 'V', 52-204, 'R', 206-305, 'R', 307-503 <RES>  
A:Cross-references: EMBL:X62345; NID:957581; PIND:CAA44218.1; PID:957582  
C:Genetics:  
A:Gene: hck  
C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 h  
C:Keywords: ATP; autophosphorylation; blocked amino end; kinase-related transforming pr  
F:62-110/Domain: SH2 homology <SH2>  
F:121-218/Domain: SH2 homology <SH2>  
F:237-495/Region: protein kinase ATP-binding motif  
F:2/Modified site: myristylated amino end (Gly) (in mature form) #status predicted  
F:3/Binding site: palmitate (Cys) (covalent) #status predicted  
F:267/Active site: Lys #status predicted  
F:388/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status predicted

Query Match 26.4%; Score 355.5; DB 1; Length 503;  
Best Local Similarity 41.4%; Pred. No. 1.4e-21;  
Matches 84; Conservative 32; Mismatches 72; Indels 15; Gaps 4;

Qy 4 PSRRSLPSPSSSVQCGPVMEERSKAT-AVALGSPAGPAELSLRGEPLTVS 62  
Db 33 PTPPKLTPNSINSLPG-----FVSGSEDTIVVALDYEAHIREDLSPFGQDQMVLE 86  
Qy 63 EDGDMTVLSEVSGREYNIPSHVAKV---SHGMLYEGLSREKAEELLPGNPGAPL 118  
Db 87 ESEEMWAKSLATKEGYIPSNVAVNSLFTTEWFFGJSRCQARHLLAPGNMWSFM 146  
Qy 119 IRESOTRSGSYSLVSRPASMDRIHYRIHCLDNGMLYISPLTFPSLOALVDHYSEL 178  
Db 147 IRSETTKGSYSLVRPDDPQHGGTVKHYKIRLDSGCFYISPRFTSSLQBLVLYHKKMG 206

Qy 179 ADDICLLKEPCVLQKASPLPGK 201  
Db 207 KDGGLCKLSVPCV-----SPKPK 225

# RESULT 9

A:Accession: A40092  
Protein-tyrosine kinase (EC 2.7.1.112) blk [validated] - mouse  
C:Species: Mus musculus (house mouse)  
C:Date: 16-Jun-2000 #sequence\_revision 16-Jun-2000 #text\_change 16-Jun-2000  
C:Accession: A40092  
R:Lybeck, S.M.; Niederhuber, J.E.; Desiderio, S.V.  
Science 247, 332-336, 1990  
A:Title: Specific expression of a tyrosine kinase gene, blk, in B lymphoid cells.  
A:Reference number: A40092; MUID:90117147; PMID:2404338  
A:Accession: A40092  
A:Molecule type: mRNA  
A:Residues: 1-499 <DYM>  
A:Cross-references: GB:M30903; NID:g202076; PIDN:AAA40453.1; PID:g202077  
C:Genetics:  
A:Gene: MGI:BLK  
A:Cross-references: MGI:88169  
A:Map position: 14:28.0  
C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 homology  
C:Keywords: ATP; autophosphorylation; blocked amino end; lipoprotein; myristylation; pnc  
F:59-107/Domain: SH3 homology <SH3>  
F:118-214/Domain: SH2 homology <SH2>  
F:233-491/Domain: protein kinase homology <KIN>  
F:241-249/Region: protein kinase ATP-binding motif  
F:2/Modified site: myristylated amino end (Gly) (in mature form) #status predicted  
F:263/Active site: Lys #status predicted

Query Match 25.7%; Score 345.5; DB 1; Length 499;  
Best Local Similarity 40.5%; Pred. No. 9, 2e-21;

Matches 75; Conservative 29; Mismatches 64; Indels 17; Gaps 3;

Qy 11 PPSLSSVCGCPVTMEKSKATVALGSPAGAPALSLRGEPLTIVSEDDDMWTV 70  
Db 44 PSPN-----QDPDEERFVALFDYAAVDDDLQVLGKELQVLSGTDWMLA 91

Qy 71 LSEVSGREVNIPSVHAKVS---HGWLVEGLSRKAEELLKGNCGAFILRSQRR 126  
Db 92 RSLVTGREGVPSNFAPVETLEVEKFFRTIRKDAEROLLAMKAGSFLIRSESNNK 151

Qy 127 GSYSLVRLSRPASMDRLRHRIHCDNGWLYISPLTFPSLQALVDHYSELADICLL 186  
Db 152 GAFSLSVK-DITTOGEVWYKXIRSLDNGGYISPRITFPTLQALVGHYSKKGDGLCQKL 210

Qy 187 KEPCV 191  
Db 211 TLPCV 215

# RESULT 10

protein-tyrosine kinase (EC 2.7.1.112) lck - human  
N:Alternate names: kinase-related transforming protein (lck)  
C:Species: Homo sapiens (man)  
C:Date: 30-Sep-1992 #sequence\_revision 30-Sep-1992 #text\_change 28-Jan-2000  
C:Accession: J00152; S07822; S07200; S01879; S07143; A32797; I57636  
R:Rouet, E.; Van Huyen, I.; de Souza, S.L.; Lang, M.C.; Fischer, S.; Benarous, R.  
Gene 84, 105-113, 1989  
A:Title: Structure of the human lck gene: differences in genomic organisation within src  
A:Reference number: J00152; MUID:90108697; PMID:2558056  
A:Accession: J00152  
A:Molecule type: DNA  
A:Residues: 1-509 <ROU>  
A:Cross-references: EMBL:X14053  
R:Perlmutter, R.M.; Marth, J.D.; Lewis, D.B.; Peet, R.; Ziegler, S.F.; Wilson, C.B.  
J Cell. Biochem. 38, 117-126, 1988  
A:Title: Structure and expression of lck transcripts in human lymphoid cells.  
A:Reference number: S07822; MUID:89123626; PMID:3265417  
A:Accession: S07822

A:Molecule type: mRNA  
A:Residues: 1-86; 'P', 88-509 <PER>  
A:Cross-references: EMBL:X13529; NID:g34294; PIDN:CAA1884.1; PID:g34295  
R:Koga, Y.; Caccia, N.; Toyonaga, B.; Spolek, R.; Yamagi, Y.; Yoshikata, Y.; Mak, T.W.  
Eur. J. Immunol. 16, 1643-1646, 1986  
A:Title: A human T cell-specific cDNA clone (YT16) encodes a protein with extensive hom

A:Reference number: S07200; MUID:87133831; PMID:3493153  
A:Accession: S07200  
A:Molecule type: mRNA  
A:Residues: 1-205; 'ASAIPR', 212-257; 'RCGW', 262; 'TTR', 266; 'T', 268-281; 'AGRLP', 287-503; 'S'

A:Cross-references: EMBL:X05027; NID:g36807; PIDN:CAA28691.1; PID:g36808  
R:Veilleux, A.; Foss, F.M.; Sauville, E.A.; Bolen, J.B.; Rosen, N.  
Oncogene Res. 1, 357-374, 1987  
A:Title: Expression of the lck tyrosine kinase gene in human colon carcinoma and other

A:Reference number: S01879; MUID:88217332; PMID:2835736  
A:Accession: S01879  
A:Molecule type: mRNA  
A:Residues: 368-471; 'H', 473-509 <VEI>  
A:Cross-references: EMBL:X06369; NID:g34288; PIDN:CAA29667.1; PID:g34289  
R:Trevillian, J.M.; Lin, Y.; Chen, S.J.; Phillips, C.A.; Canna, C.; Lina, T.J.  
Biochim. Biophys. Acta 888, 286-295, 1986

A:Title: Human T lymphocytes express a protein-tyrosine kinase homologous to p56 (LSTRA).  
A:Reference number: S07143; MUID:87000726; PMID:3489486  
A:Accession: S07143  
A:Molecule type: mRNA  
A:Residues: 'A', 376-509 <TRE>  
A:Cross-references: EMBL:X04476; NID:g35779; PIDN:CAA28165.1; PID:g35780  
R:Takadera, T.; Leung, S.; Gernone, A.; Koga, Y.; Takihara, Y.; Miyamoto, N.G.; Mak, T.W.  
Mol. Cell. Biol. 9, 2173-2180, 1989

A:Title: Structure of the two promoters of the human lck gene: differential accumulation  
A:Reference number: A32797; MUID:89313764; PMID:2287474  
A:Accession: A32797  
A:Molecule type: DNA  
A:Residues: 1-35 <TAK>  
A:Cross-references: GB:M2692; NID:g341523; PIDN:AAA59503.1; PID:g349702  
R:Garvin, A.M.; Pawar, S.; Marth, J.D.; Perlmutter, R.M.  
Mol. Cell. Biol. 8, 3058-3064, 1988

A:Title: Structure of the murine lck gene and its rearrangement in a murine lymphoma cell  
A:Reference number: I57636; MUID:89096991; PMID:2850479  
A:Accession: I57636  
A:Status: translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 1-35; 'VR', <RES>  
A:Cross-references: GB:M21510; NID:g187031; PIDN:AAA59501.1; PID:g553522  
C:Comment: Protein tyrosine kinases play important roles in the control of cell growth

C:Genetics:  
A:Gene: GDB:LCK  
A:Cross-references: GDB:119360; OMIM:153390  
A:Map position: 1p35-1p34.3  
A:Intons: 35/3; 63/1; 93/2; 126/2; 161/1; 211/1; 262/1; 322/1; 347/3; 399/1; 443/1  
C:Function:  
A:Description: catalyzes the phosphorylation of a peptide tyrosine residue by ATP  
C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 homology  
C:Keywords: ATP; autophosphorylation; blocked amino end; lipoprotein; myristylation; pnc

F:2-509/Product: protein-tyrosine kinase lck #status predicted <MAY>  
F:68-116/Domain: SH3 homology <SH3>  
F:127-224/Domain: SH2 homology <SH2>  
F:243-501/Domain: protein kinase homology <KIN>  
F:251-259/Region: protein kinase ATP-binding motif  
F:2/Modified site: myristylated amino end (Gly) (in mature form) #status predicted  
F:3.5/Binding site: palmitate (Cys) (covalent) #status predicted  
F:273/Active site: Lys #status predicted  
F:394,505/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status predicted

Query Match 25.6%; Score 344; DB 1; Length 509;  
Best Local Similarity 41.1%; Pred. No. 1, 3e-20;  
Matches 74; Conservative 26; Mismatches 70; Indels 10; Gaps 2;

Qy 25 VTMEARSKAT-----AVAGSPAGAPALSLRGEPLTIVSEDDDMWTVLSEVSGR 78  
Db 49 VTVEGNSPAPLQDNLVIALHYSRSHDGLGKGEKQRLIRDSGEMWAKAGSLTTGGE 108

Qy 79 YNIPSVHAKVS---HGWLVEGLSRKAEELLKGNCGAFILRSQRRGYSLSVR 134

Db 109 GRPFPYAKANSLEPEPWFKNLSRKAERQGLAVGNHGSFLLRSESTAGSFLSVR 168  
 QY 135 LSRPASMDRIHRIHCLDNGMLYISPLTTPSPLOLVNHYSELADIDICLLKEPCVLOR 194  
 Db 169 DFDONQGEVNVKIRNLNDGPFYISPRITFPGLHVLVRYNNASDGLCTRLSRPECOTK 228

## RESULT 11

148845

protein-tyrosine kinase (EC 2.7.1.112) lck, lymphocyte - mouse  
 N/Alternate names: p56; protein-tyrosine kinase lck  
 C/Species: Mus musculus (house mouse)  
 C/Date: 18-Feb-2000 #sequence\_revision 18-Feb-2000 #text\_change 03-Mar-2000

A/Accession: 148845; A23639; I57629; I77452  
 R/Voronova, A.F.; Sefton, B.M.  
 Nature 319, 682-685, 1986

A/Title: Expression of a new tyrosine protein kinase is stimulated by retrovirus promoter  
 A/Reference number: 148845; PMID:86146842; PMID:3081813

A/Accession: 148845  
 A/Status: preliminary; translated from GB/EMBL/DBJ

A/Molecule type: mRNA

A/Residues: 1-509 <VOR1>

A/Cross-references: EMBL:X03533; NID:G54813; PIDN:CAA27234.1; PID:G54814

R/Marth, J.D.; Peet, R.; Krebs, E.G.; Perlmutter, R.M.  
 Cell 43, 393-404, 1985

A/Title: A lymphocyte-specific protein-tyrosine kinase gene is rearranged and overexpressed  
 A/Reference number: A23639; PMID:86079521; PMID:2416664

A/Accession: A23639

A/Molecule type: mRNA

A/Residues: 1-282; VP, 285-509 <MAR>

A/Cross-references: GB:M12056; NID:G198763

A/Note: the sequence is revised in Genbank entry MUSLCK, release 116.0, (PIDN:AAB5674.1

R/Voronova, A.F.; Adler, H.T.; Sefton, B.M.  
 Mol. Cell. Biol. 7, 4407-4413, 1987

A/Title: Two lck transcripts containing different 5' untranslated regions are present in  
 A/Reference number: 157629; PMID:86142832; PMID:3501824

A/Accession: 157629

A/Status: preliminary; translated from GB/EMBL/DBJ

A/Molecule type: DNA

A/Residues: 1-11 <VOR>

A/Cross-references: GB:M18098; NID:G198766; PIDN:AAA39422.1; PID:G198767

R/Garvin, A.M.; Pawar, S.; Marth, J.D.; Perlmutter, R.M.  
 Mol. Cell. Biol. 8, 3058-3064, 1988

A/Title: Structure of the murine lck gene and its rearrangement in a murine lymphoma cell  
 A/Reference number: 157636; PMID:8906891; PMID:2850479

A/Accession: 177452

A/Status: preliminary; translated from GB/EMBL/DBJ

A/Molecule type: DNA

A/Residues: 1-35; VR, <GAR>

A/Cross-references: GB:M21511; NID:G198768; PIDN:AAA39422.1; PID:G554186

C/Species: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 h

C/Keywords: ATP; autophosphorylation; blocked amino end; kinase-related transforming pro

F/68-116/Domain: SH2 homology <SH2>

F/127-224/Domain: SH2 homology <SH2>

F/243-501/Domain: protein kinase homology <KIN>

F/251-259/Region: protein kinase ATP-binding motif

F/2/Modified site: myristylated amino end (Gly) (in mature form) #status predicted

F/273/Active site: Lys #status predicted

F/394,505/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status pred

Query Match 25.4%; Score 342.5; DB 1; Length 509;  
 Best Local Similarity 39.6%; Pred. No. 1.7e-20;  
 Matches 78; Conservative 28; Mismatches 84; Indels 7; Gaps 2;

QY 118 LIRESGTRGSGYSISLVLSRPAEMDRIRHICLDNGMLYISPLTTPSPLOLVNHYSELADIDICLLKEPCVLOR 177  
 Db 152 LIRESESTAGSFLSVRDFDONQGEVNVKIRNLNDGPFYISPRITFPGLHVLVRYNNASDGLCTRLSRPECOTK 211  
 QY 178 LADIDICLLKEPCVLOR 194  
 Db 212 ASDGLCTRLSRPECOTK 228

## RESULT 12

A39939

protein-tyrosine kinase (EC 2.7.1.112) ckl [similarity] - chicken  
 N/Alternate names: kinase-related transforming protein (tkl); T-cell surface antigen ass

C/Species: Gallus gallus (chicken)  
 C/Date: 16-Jun-2000 #sequence\_revision 16-Jun-2000 #text\_change 16-Jun-2000

A/Accession: A42126; A39939  
 R/Chow, L.M.; Ratcliffe, M.J.; Veilleux, A.

Mol. Cell. Biol. 12, 1226-1233, 1992

A/Title: tkl is the avian homolog of the mammalian lck tyrosine protein kinase gene.  
 A/Reference number: A42126; PMID:92186854; PMID:1545804

A/Accession: A42126

A/Molecule type: mRNA

A/Residues: 1-88 <CHO>

A/Cross-references: GB:M85043

A/Experimental source: thymus, spleen

A/Note: sequence extracted from NCBI backbone (NCBI:88831, NCBI:88833)

R/Strebhardt, K.; Mullins, J.I.; Bruck, C.; Ruedemann-Walgramm, H.  
 Proc. Natl. Acad. Sci. U.S.A. 84, 8778-8782, 1987

A/Title: Additional member of the protein-tyrosine kinase family: the src-and lck-relate  
 A/Reference number: A39939; PMID:88097370; PMID:3321053

A/Accession: A39939

A/Molecule type: mRNA

A/Residues: 52-507 <ST>

A/Cross-references: GB:J03579; NID:G212712; PIDN:AAA49081.1; PID:G212713

C/Species: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 h

C/Keywords: ATP; autophosphorylation; blocked amino end; lipoprotein; myristylation; pho

F/66-114/Domain: SH2 homology <SH2>

F/125-222/Domain: SH2 homology <SH2>

F/241-499/Domain: protein kinase homology <KIN>

F/249-257/Region: protein kinase ATP-binding motif

F/2/Modified site: myristylated amino end (Gly) (in mature form) #status predicted

F/352,503/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status pred

Query Match 25.0%; Score 337; DB 1; Length 507;  
 Best Local Similarity 43.8%; Pred. No. 4.7e-20;  
 Matches 71; Conservative 27; Mismatches 60; Indels 4; Gaps 1;

QY 37 VALGSPAGCPAEISLRLEPPLTIVSEDCGMWTVLSVSGREYNIPSVHAKVS---HG 92  
 Db 65 VALYDEPETHGCDGLKQGEKRVLEBSGEMWRAQSLTTCGCGILPINFVAMNLSLEPP 124  
 QY 93 WLYEGLSREKAEKELLIPNPGCAFLLRESQTRGSGYSISLVLSRPAEMDRIRHICLDNGMLYISPLTTPSPLOLVNHYSELADIDICLLKEPCVLOR 152  
 Db 125 WFKKNSLRKNEALIASNGTHGSFLIRESTKSGYSISLVDFDONQGEVNVKIRNM 184  
 QY 153 DNGMLYISPLTTPSPLOLVNHYSELADIDICLLKEPCVLOR 194  
 Db 185 DNGYISPRITFPGLHVLVRYNNASDGLCTRLSRPECOTK 226

## RESULT 13

B49114

protein-tyrosine kinase (EC 2.7.1.112) ftk - Pacific electric ray  
 C/Species: Torpedo californica (Pacific electric ray)  
 C/Date: 10-Nov-1995 #sequence\_revision 10-Nov-1995 #text\_change 18-Feb-2000

A/Accession: B49114  
 R/Swope, S.L.; Huganir, R.L.

J. Biol. Chem. 268, 25152-25161, 1993

A/Title: Molecular cloning of two abundant protein tyrosine kinases in Torpedo electric

A/Reference number: A49114; PMID:94043386; PMID:8227079

A/Accession: B49114

A/Status: preliminary

A/Molecule type: mRNA





